STATE OF COLORADO

CLASS SERIES DESCRIPTION
July 1, 2002

ELECTRONICS SPECIALIST

I5E1IX TO I5E5XX

DESCRIPTION OF OCCUPATIONAL WORK

This class series uses five levels in the Physical Sciences and Engineering occupational group and describes the operation, maintenance, installation, and planning for telecommunications and electronic equipment and devices. The work includes design, testing, repair, and modifications to new or existing equipment associated with telephones, microwave, radio, fiber optics, computers, modems, and switching equipment and the related support to these systems. Work may include establishing contractual support, calibrating and certifying equipment, maintaining precision measuring equipment, and/or project design or management for installation or repair of telecommunications or electronic equipment. The work may also entail providing support services to state and non-state customers for electronic or telecommunications services or equipment.

ELECTRONICS SPECIALIST INTERN I5E1IX

CONCEPT OF CLASS

This class describes the entry level. Work is designed to train positions for a higher level in the class series. Although tasks are similar to those of the first-working level, assignments are structured and performed with direction and assistance from others. Positions carry out established work processes and operations by learning to apply and follow procedures, techniques, rules, and regulations. Once training has been completed, the position is to be moved to the next level. Positions should not remain in this class indefinitely.

ELECTRONICS SPECIALIST I I5E2TX

CONCEPT OF CLASS

This class describes the first-working level. Positions in this level install, operate, troubleshoot, and repair telecommunications or electronic equipment. The work entails responding to work orders or requests for service, working with customers to identify problems or faults, and then completing repairs or ordering necessary parts. Positions record actions taken to solve problems and may initiate billing for services. Positions operate necessary test equipment and maintain tools and supplies.

FACTORS

Allocation must be based on meeting all of the four factors as described below.

Decision Making -- The decisions regularly made are at the defined level, as described here. Within limits prescribed by the operation, choices involve selecting alternatives that affect the manner and speed with which tasks are carried out. These choices do not affect the standards or results of the operation itself because there is typically only one correct way to carry out the operation. These alternatives include independent choice of such things as priority and personal preference for organizing and processing the work, proper tools or equipment, speed, and appropriate steps in the operation to apply. By nature, the data needed to make decisions can be numerous but are clear and understandable so logic is needed to apply the prescribed alternative. Positions can be taught what to do to carry out assignments and any deviation in the manner in which the work is performed does not change the end result of the operation. For example, positions follow established procedures and checklists in repairing equipment.

Complexity -- The nature of, and need for, analysis and judgment is patterned, as described here. Positions study technical telecommunications or electronic fault or problem information to determine what it means and how it fits together in order to get practical solutions in the form of operations or repairs to failures. Guidelines in the form of technical repair manuals exist for most situations. Judgment is needed in locating and selecting the most appropriate of these guidelines which may change for varying circumstances as the task is repeated. This selection and interpretation of guidelines involves choosing from alternatives where all are correct but one is better than another depending on the given circumstances of the situation. For example, positions select the most appropriate replacement equipment from available inventory.

Purpose of Contact -- Regular work contacts with others outside the supervisory chain, regardless of the method of communication, are for the purpose of detecting, discovering, exposing information, problems, violations or failures by interviewing or investigating where the issues or results of the contact are not known ahead of time. For example, positions interview equipment users to determine problems and the extent of failures.

Line/Staff Authority -- The direct field of influence the work of a position has on the organization is as an individual contributor. The individual contributor may explain work

processes and train others. The individual contributor may serve as a resource or guide by advising others on how to use processes within a system or as a member of a collaborative problem-solving team.

ELECTRONICS SPECIALIST II I5E3XX

CONCEPT OF CLASS

This class describes the fully-operational level. In addition to work described by the lower levels, positions in this level decide when and how installation and repair actions will occur. The work includes a variety of telecommunications or electronic maintenance activities. Positions are expected to use judgment in selecting or creating solutions to unusual problems or faults. The work entails modifications to existing equipment or installation of new types of devices requiring practical innovations for power, heat, or cooling requirements. This class differs from the Electronics Specialist I in the Decision Making factor and possibly on the Purpose of Contact factor.

FACTORS

Allocation must be based on meeting all of the four factors as described below.

Decision Making -- The decisions regularly made are at the operational level, as described here. Within limits set by the specific process, choices involve deciding what operation is required to carry out the process. This includes determining how the operation will be completed. By nature, data needed to make decisions are numerous and variable so reasoning is needed to develop the practical course of action within the established process. Choices are within a range of specified, acceptable standards, alternatives, and technical practices. For example, positions decide what modifications are made and how equipment will be installed.

Complexity -- The nature of, and need for, analysis and judgment is patterned, as described here. Positions study technical drawings or fault isolation data to determine what it means and how it fits together in order to get practical solutions in the form of modifications or installations of equipment. Guidelines in the form of technical repair manuals or design drawings exist for most situations. Judgment is needed in locating and selecting the most appropriate of these guidelines which may change for varying circumstances as the task is repeated. This selection and interpretation of guidelines involves choosing from alternatives where all are correct but one is better than another depending on the given circumstances of the situation. For example, positions choose the appropriate project design based on building codes and equipment specifications.

Purpose of Contact -- Regular work contacts with others outside the supervisory chain, regardless of the method of communication, are for the purpose of at least two of the following:

Exchanging or collecting information with contacts. This involves giving learned information that is readily understandable by the recipient or collecting factual information in order to solve

factual problems, errors, or complaints. For example, positions collect failure and repair information to prepare reports.

Detecting, discovering, exposing information, problems, violations or failures by interviewing or investigating where the issues or results of the contact are not known ahead of time. For example, positions interview equipment users to determine problems and the extent of failures.

Advising, counseling, or guiding the direction taken to resolve complaints or problems and influence or correct actions and behaviors. For example, positions advise customers on equipment capabilities and built-in-test capabilities to solve operational problems.

Line/Staff Authority -- The direct field of influence the work of a position has on the organization is as an individual contributor. The individual contributor may explain work processes and train others. The individual contributor may serve as a resource or guide by advising others on how to use processes within a system or as a member of a collaborative problem-solving team. This level may include positions performing supervisory elements that do not fully meet the criteria for the next level in this factor.

ELECTRONICS SPECIALIST III I5E4XX

CONCEPT OF CLASS

This class describes the work leader or staff authority level. In addition to work described by the previous class, positions in this level have work leader responsibilities over others. This may include assigning work, evaluating the quality of work performed, instructing and training on new equipment, or advising on equipment faults. This class also describes those positions functioning as agency authorities on a subject matter where managers and peers rely on the position for expert advice and consultation. This class differs from the Electronics Specialist II class in the Line/Staff Authority factor and possible in the Purpose of Contact factor.

FACTORS

Allocation must be based on meeting all of the four factors as described below.

Decision Making -- The decisions regularly made are at the operational level, as described here. Within limits set by the specific process, choices involve deciding what operation is required to carry out the process. This includes determining how the operation will be completed. By nature, data needed to make decisions are numerous and variable so reasoning is needed to develop the practical course of action within the established process. Choices are within a range of specified, acceptable standards, alternatives, and technical practices. For example, positions decide what modifications are made and how equipment will be installed.

Complexity -- The nature of, and need for, analysis and judgment is patterned, as described here. Positions study technical drawings or fault isolation data to determine what it means and how it fits together in order to get practical solutions in the form of modifications or installations of

equipment. Guidelines in the form of technical repair manuals or design drawings exist for most situations. Judgment is needed in locating and selecting the most appropriate of these guidelines which may change for varying circumstances as the task is repeated. This selection and interpretation of guidelines involves choosing from alternatives where all are correct but one is better than another depending on the given circumstances of the situation. For example, positions choose the appropriate project design based on building codes and equipment specifications.

Purpose of Contact -- Regular work contacts with others outside the supervisory chain, regardless of the method of communication, are for the purpose of both of the following:

Detecting, discovering, exposing information, problems, violations or failures by interviewing or investigating where the issues or results of the contact are not known ahead of time. For example, positions interview customers to identify needs of equipment capabilities prior to equipment purchases.

Advising, counseling, or guiding the direction taken to resolve complaints or problems and influence or correct actions and behaviors. For example, positions advise organizations/agencies on equipment specifications or capabilities so as to reduce maintenance requirements.

Line/Staff Authority -- The direct field of influence the work of a position has on the organization is as a work leader or staff authority. The work leader is partially accountable for the work product of two or more full-time equivalent positions, including timeliness, correctness, and soundness. At least one of the subordinate positions must be in the same series or at a comparable conceptual level. Typical elements of direct control over other positions by a work leader include assigning tasks, monitoring progress and work flow, checking the product, scheduling work, and establishing work standards. The work leader provides input into supervisory decisions made at higher levels, including signing leave requests and approving work hours. This level may include positions performing supervisory elements that do not fully meet the criteria for the next level in this factor.

OR

The staff authority is a pacesetter who has a unique level of technical expertise in a field or profession that, as part of the assignment, is critical to the success of an agency. It is an essential component of the work assignment that has been delegated by management to the position. This authority directly influences management decisions within an agency. For example, management relies on such a position when making decisions regarding the direction that policy or a program should take in the staff authority's field of expertise. Managers and peers recognize and seek this level of technical guidance and direction regarding the application of a program or system within the agency or to its clients.

ELECTRONICS SPECIALIST IV I5E5XX

CONCEPT OF CLASS

This class describes the supervisory level. Positions in this level have responsibility for establishing installation, maintenance, or operating processes used by others. The work also includes responsibility for decisions which affect the pay, status, or tenure of others. This class differs from the Electronics Specialist III in the Decision Making and Line/Staff Authority factors and possibly in the Purpose of Contact factor.

FACTORS

Allocation must be based on meeting all of the four factors as described below.

Decision Making -- The decisions regularly made are at the process level, as described here. Within limits set by professional standards, the agency's available technology and resources, and program objectives and regulations established by a higher management level, choices involve determining the process, including designing the set of operations. For example, positions decide operations on obtaining parts or equipment, levels of service, preventative maintenance practices, and/or training provided to customers. The general pattern, program, or system exists but must be individualized. This individualization requires analysis of data that is complicated. Analysis is breaking the problem or case into parts, examining these parts, and reaching conclusions that result in processes. This examination requires the application of known and established theory, principles, conceptual models, professional standards, and precedents in order to determine their relationship to the problem. For example, positions apply professional standards to project designs and installation of telecommunications equipment. New processes or objectives require approval of higher management or the agency with authority and accountability for the program or system.

Complexity -- The nature of, and need for, analysis and judgment is patterned, as described here. Positions study designs, program requirements, or equipment technical specification information to determine what it means and how it fits together in order to get practical solutions in the form of work processes or support services to state agencies. Guidelines in the form of allocated budgets, purchase requests, and industry standards exist for most situations. Judgment is needed in locating and selecting the most appropriate of these guidelines which may change for varying circumstances as the task is repeated. This selection and interpretation of guidelines involves choosing from alternatives where all are correct but one is better than another depending on the given circumstances of the situation.

Purpose of Contact -- Regular work contacts with others outside the supervisory chain, regardless of the method of communication, are for the purpose of at least two of the following:

Detecting, discovering, exposing information, problems, violations or failures by interviewing or investigating where the issues or results of the contact are not known ahead of time. For example, positions interview others to determine causes of failures or poor operations.

Advising, counseling, or guiding the direction taken to resolve complaints or problems and influence or correct actions and behaviors. For example, positions guide other agencies in procurement, installation, and operation of electronic equipment to preclude incompatibilities.

Negotiating as an official representative of one party in order to obtain support or cooperation where there is no formal rule or law to fall back on in requiring such action or change from the other party. Such negotiation has fiscal or programmatic impact on an agency. In reaching settlements or compromises, the position does not have a rule or regulation to enforce but is accountable for the function. For example, positions negotiate levels of service to other agencies which has programmatic or fiscal impact on one or both.

Line/Staff Authority -- The direct field of influence the work of a position has on the organization is as a unit supervisor, a staff authority, or an individual contributor. The unit supervisor is accountable, including signature authority, for actions and decisions that directly impact the pay, status, and tenure of three or more full-time equivalent positions. At least one of the subordinate positions must be in the same series or at a comparable conceptual level. The elements of formal supervision must include providing documentation to support recommended corrective and disciplinary actions, signing performance plans and appraisals, and resolving informal grievances. Positions start the hiring process, interview applicants, and recommend hire, promotion, or transfer.

OR

The staff authority is a pacesetter who has a unique level of technical expertise in a field or profession that, as part of the assignment, is critical to the success of an agency. It is an essential component of the work assignment that has been delegated by management to the position. This authority directly influences management decisions within an agency. For example, management relies on such a position when making decisions regarding the direction that policy or a program should take in the staff authority's field of expertise. Managers and peers recognize and seek this level of technical guidance and direction regarding the application of a program or system within the agency or to its clients.

OR

The direct field of influence the work of a position has on the organization is as an individual contributor. The individual contributor may explain work processes and train others. The individual contributor may serve as a resource or guide by advising others on how to use processes within a system or as a member of a collaborative problem-solving team. This level may include positions performing supervisory elements that do not fully meet the criteria for the next level in this factor.

NOTE: Staff Authority and Individual Contributor positions at this level must have Decision Making at the Process level, and Purpose of Contact must include Negotiating.

DEFINITION

Telecommunications: technician work in the installation modification, and repair of communications equipment, analog and/or digital, between sites using appropriate transmission media [including radio frequency (r/f)]. The work includes both hardware and software components.

ENTRANCE REQUIREMENTS

Minimum entry requirements and general competencies for classes in this series are contained in the State of Colorado Department of Personnel & Administration web site.

For purposes of the Americans with Disabilities Act, the essential functions of specific positions are identified in the position description questionnaires and job analyses.

CLASS SERIES HISTORY

Effective 7/1/02 (DLF). PSE System Maintenance Study. Broadened series description of work to electronics specialist from narrower telecommunications/electronics specialist. Changed class series title from Telecommunications/Electronics Specialist to Electronics Specialist. Published as proposed 5/15/02.

Effective 9/1/93 (DLF). Job Evaluation System Revision project. Published as proposed 6/1/93, 2/1/94.

Revised 9/1/88. Changed titles, options, nature of work, and entrance requirements, Telecommunications/Electronics Specialist (A2550-54).

Revised 7/1/86. Changed relationships, Telecommunications/Electronics Specialist (A2550-54).

Revised 7/1/84. Changed relationships, Telecommunications/Electronics Specialist (A2550-53).

Revised 7/1/82. Changed relationships, Telecommunications/Electronics Specialist (A2550-54), Telephone and Wire Services Specialist (A2560).

Revised 2/1/80. Changed options and overtime status, Senior Telecommunications/Electronics Specialist
(A2553).

Created 1/1/75. Telecommunications/Electronics Specialist (A2550-54), Telephone and Wire Services Specialist (A2560).

SUMMARY OF FACTOR RATINGS

Class Level	Decision Making	Complexity	Purpose of Contact	Line/Staff Authority
Electronics Specialist Intern	na	na	na	na
Electronics Specialist I	Defined	Patterned	Detect	Indiv. Contributor
Electronics Specialist II	Operational	Patterned	* Exchange, Detect, or Advise	Indiv. Contributor
Electronics Specialist III	Operational	Patterned	Detect & Advise	Work Leader or Staff Authority
Electronics Specialist IV	Process	Patterned	* Detect, Advise, or Negotiate	Unit Supervisor, Staff Authority, or Indiv. Contributor**

* Must have 2 or 3.
** See description for requirements on factors of the individual contributor.

ISSUING AUTHORITY: Colorado Department of Personnel & Administration